



Focus on **Removing mercury switches from end-of-life vehicles**

from Ecology's Hazardous Waste & Toxics Reduction Program

Auto recyclers remove the threat of mercury contamination

We all know that cars are a major source of air pollution while they're on the road, but what's less known is that they are also a source of toxic mercury pollution when they reach the end of their useful life.

According to the federal Environmental Protection Agency, more than 200 million mercury switches were installed in vehicles from 1974 to 2002. Although mercury switches were eliminated from new vehicles at the end of 2002, mercury switches will remain in the steel-scrap supply for the next 10 to 15 years. The steel industry recycles about 12 to 14 million end-of-life vehicles each year.

Washington state auto recyclers, which include dismantlers, wrecking yards and scrap-metal processors, have begun collecting mercury switches from end-of-life vehicles before the vehicles are recycled.

Approximately 200,000 vehicles are processed each year by Washington state auto recyclers. The aim is to remove and recycle 100,000 auto mercury light switches from scrapped automobiles in 2006. With 1 gram of mercury in each switch, that goal would mean 220 pounds of mercury would be kept out of the environment.

At end-of-life, during the recycling process of crushing, shredding and melting, the mercury in vehicles is released to the environment. The mercury switches are one of the nation's largest manufacturing sources of toxic mercury.

Collecting mercury switches is important because mercury released into the air can accumulate in plants, fish and humans. Children and fetuses are vulnerable to the effects of the toxic metal, which can damage the developing nervous system.

Background

Prior to 2003, many American-made vehicles were installed with hood- and trunk-light switches that contained 1-gram mercury pellets. Although, mercury pellets are also used in some antilock brake systems and high intensity discharge (HID) headlamps, nearly 90 percent of the mercury is found in the hood and trunk lights.

Even a single gram of mercury, the amount found in one auto switch, can contaminate a 20 acre lake to the degree that fish would be unsafe to eat.



The Department of Ecology, the Automotive Recyclers of Washington Association and End of Life Vehicle Solutions (ELVS), an organization made up of vehicle manufacturers that used to install mercury switches into vehicles, signed a memorandum of understanding in 2006, agreeing to cooperate in a voluntary statewide program to collect mercury switches.

The program will recover and recycle the switch assemblies before the vehicles are crushed and shredded for recycling. After shredding a vehicle, the metal is sent to a steel mill where it is melted down for re-use.

Collecting mercury to protect the environment

Currently, more than 45 percent of the 250 licensed auto recyclers in Washington state have signed up for the switch-collection program. The participating 115 firms process about 75 percent of end-of-life vehicles.

The campaign to collect the switch assemblies was launched in June 2006, when the recyclers volunteered to participate in the program. They were sent environmentally-safe mercury switch collection containers from Environmental Quality (EQ), a hazardous waste disposal company in Michigan that is under contract with ELVS to dispose of the mercury. Each participating auto recycler that signed up has received one or more of the containers that will be filled with mercury switches and sent back to EQ.

Estimates suggest that there are 35 million mercury switches still in vehicles on the road throughout the United States. Washington state is one of the first states in the nation to establish a program such as this to remove mercury switches from end-of-life vehicles.